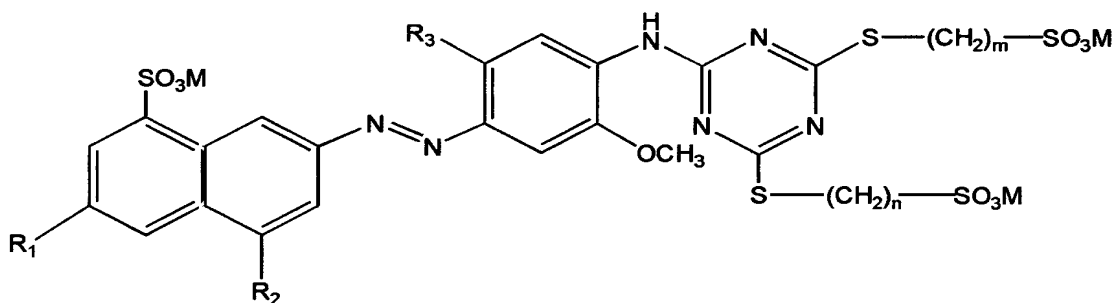


CLAIMS

- 5 1. A dye set for formulating ink-jet inks, comprising:
- (a) cyan colorant including a phthalocyanine dye;
- (b) magenta colorant including a copper- or nickel- containing azo dye;
- and
- (c) yellow colorant having the structure Formula 1:

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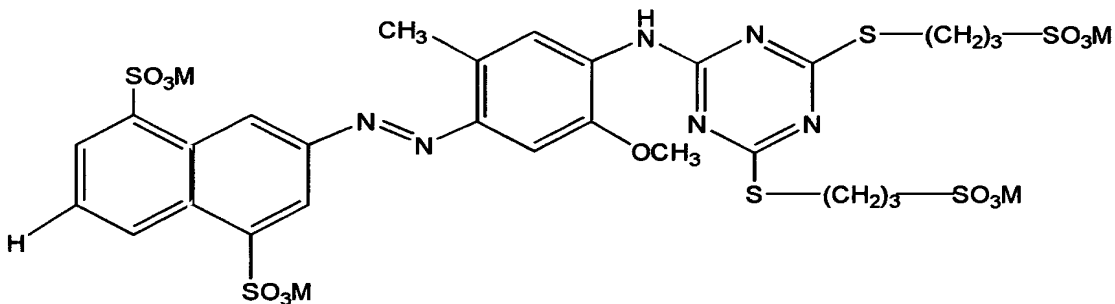
wherein R_1 is H, SO_3M , COOM , or SO_2NH_2 ;

and wherein R_2 is H, SO_3M , COOM , or SO_2NH_2 ;

and wherein R_3 is H or CH_3 ; and wherein n and m are 2, 3, 4, 5 or 6;

- 15 and wherein M is H, Na, Li, K, ammonium, ammonium substituted with alkyl or combinations thereof.

2. A dye set as in claim 1, wherein the yellow colorant has the structure Formula 2:

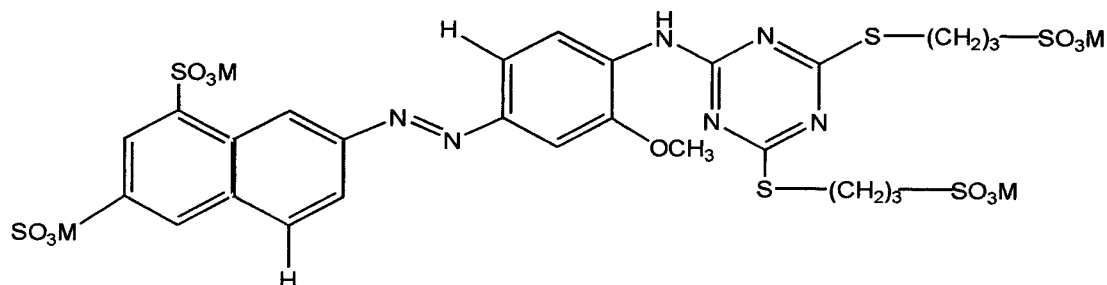


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wherein M is H, Na or Li.

3. A dye set as in claim 1, wherein the yellow colorant has the structure

Formula 3:



wherein M is H, Na or Li.

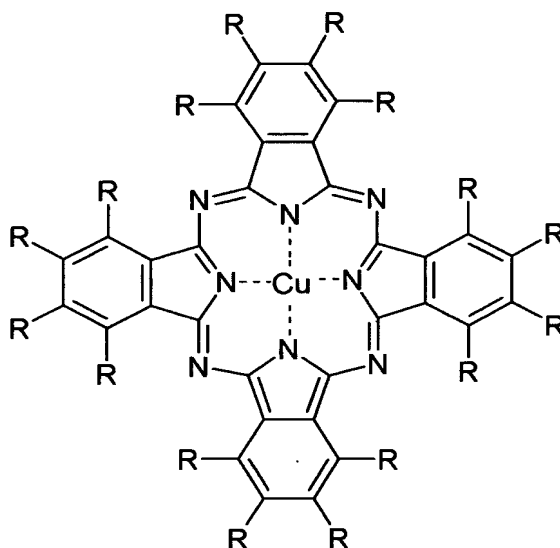
5 4. A dye set as in claim 1, wherein the cyan colorant further comprises a cyan triarylmethine dye blended with the phthalocyanine dye at a 1:2 to 1:100 weight ratio.

10 5. A dye set as in claim 1, wherein the magenta colorant further comprises a rhodamine dye blended with the copper- or nickel- containing azo dye at a 1:80 to 125:4 weight ratio.

15 6. A dye set as in claim 1, wherein the yellow colorant further comprises at least one of Acid Yellow 17 and Acid Yellow 23 blended with the yellow colorant having the structure of Formula 1.

 7. A dye set as in claim 1, wherein the phthalocyanine dye comprises DB199.

20 8. A dye set as in claim 1, wherein the phthalocyanine dye comprises a dye including the structure:



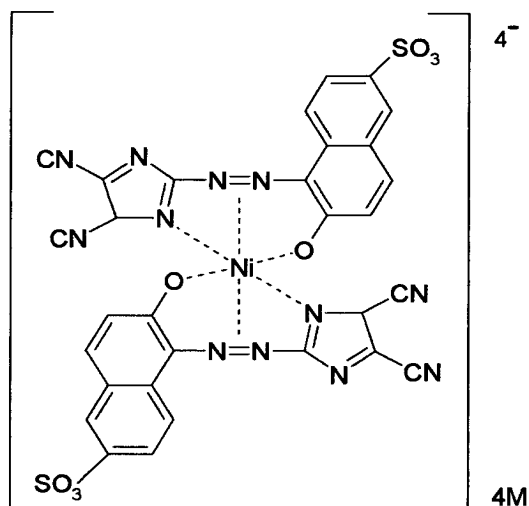
wherein each R group is independently H, SO₃H, SO₂NH₂, or SO₂NH-alkyl-OH₂, with the proviso that an average of from 2 to 6 R groups are other than H.

5 9. A dye set as in claim 1, wherein the copper- or nickel- containing azo dye comprises Pacified or Non-Pacified Reactive Red 23.

10 10. A dye set as in claim 1, wherein the copper- or nickel- containing azo dye comprises a nickel metallized naphthol azo triazole.

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11. A dye set as in claim 1, wherein the copper- or nickel- containing azo dye comprises a dye including the structure:



wherein M is H or a monovalent ion.

12. A dye set as in claim 5, wherein the rhodamine dye comprises a member selected from the group consisting of Acid Red 52, Acid Red 289, Acid Red 388, and mixtures thereof.

13. A dye set as in claim 4, wherein the cyan triarylmethine dye is Acid Blue 9.

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14. A dye set as in claim 1, wherein the phthalocyanine dye is a single phthalocyanine dye.

15. A dye set as in claim 1, wherein the phthalocyanine dye is at least two phthalocyanine dyes blended together.

16. A dye set as in claim 1, wherein the copper- or nickel- containing azo dye is a single copper- or nickel-containing azo dye.

17. A dye set as in claim 1, wherein the copper- or nickel- containing azo dye is at least two copper- or nickel-containing azo dyes blended together.

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18. A dye set as in claim 6, wherein the yellow colorant comprises the yellow colorant having the structure Formula 2 and Acid Yellow 17 at a 3:10 to 90:1 weight ratio.

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19. A dye set as in claim 6, wherein the yellow colorant comprises the yellow colorant having the structure Formula 2 and Acid Yellow 23 at a 3:10 to 90:1 weight ratio.

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20. A dye set as in claim 6, wherein the yellow colorant comprises the yellow colorant having the structure Formula 3 and Acid Yellow 17 at a 3:10 to 90:1 weight ratio.

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21. A dye set as in claim 6, wherein the yellow colorant comprises the yellow colorant having the structure Formula 3 and Acid Yellow 23 at a 3:10 to 90:1 weight ratio.

22. An ink set for ink-jet printing, comprising:

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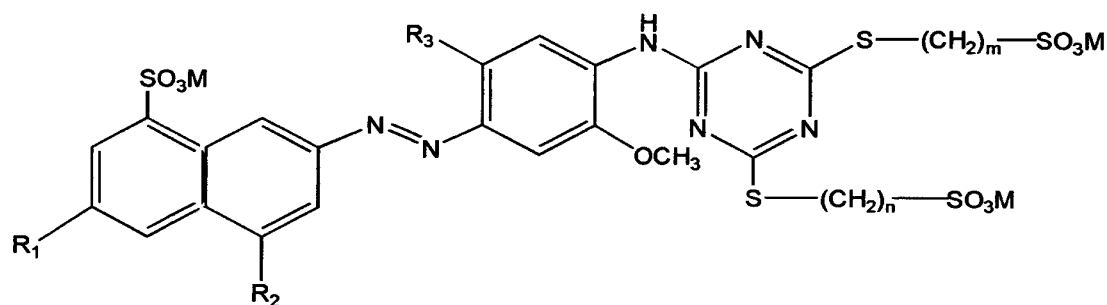
(a) a cyan ink-jet ink including a first ink vehicle admixed with from 2 wt% to 10 wt% of a phthalocyanine dye;

(b) a magenta ink-jet ink including a second ink vehicle admixed with from 0.8 wt% to 8 wt% of a copper- or nickel- containing azo dye; and

25

(c) a yellow ink-jet ink including a third ink vehicle admixed with from 1.5 wt% to 9 wt% of a

yellow colorant having the structure Formula 1:



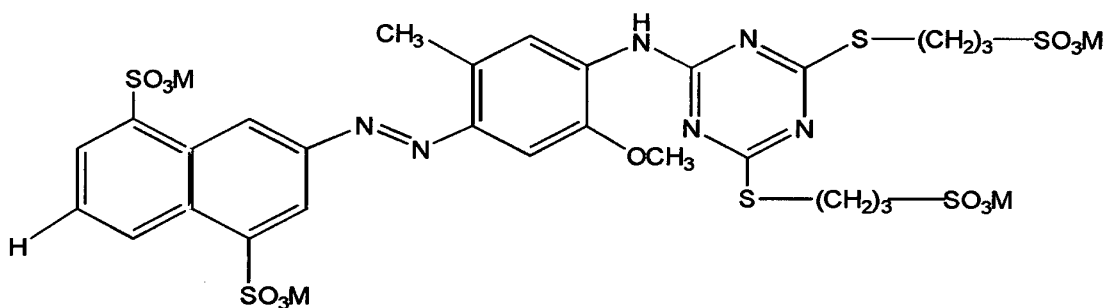
wherein R_1 is H, SO_3M , COOM , or SO_2NH_2 ;

and wherein R_2 is H, SO_3M , COOM , or SO_2NH_2 ;

and wherein R_3 is H or CH_3 ; and wherein n and m are 2, 3, 4, 5 or 6;

5 and wherein M is H, Na, Li, K, ammonium, ammonium substituted with alkyl or combinations thereof.

23. An ink set as in claim 22, wherein the yellow colorant has the structure
Formula 2:

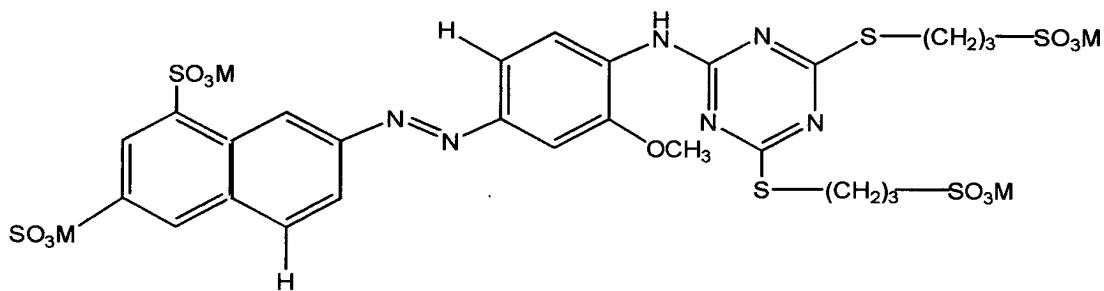


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wherein M is H, Na or Li.

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20 24. An ink set as in claim 22, wherein the yellow colorant has the structure
Formula 3:



wherein M is H, Na or Li.

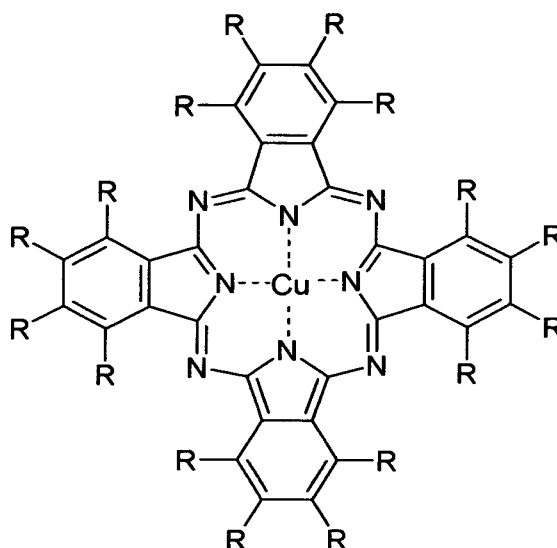
25. An ink set as in claim 22, wherein the cyan ink-jet ink further
 5 comprises from 0.1 wt% to 1 wt% of a cyan azo dye admixed in the first ink vehicle.

26. An ink set as in claim 22, wherein the magenta ink-jet ink further
 10 comprises from 0.1 wt% to 2.5 wt% of a rhodamine dye admixed in the second ink vehicle.

27. An ink set as in claim 22, wherein the yellow ink-jet ink further
 15 comprises from 0.1 wt% to 5 wt% of a member selected from the group consisting of Acid Yellow 17, Acid Yellow 23, and mixtures thereof, admixed in the third ink vehicle.

28. An ink set as in claim 22, wherein the phthalocyanine dye comprises DB199.

20 29. An ink set as in claim 22, wherein the phthalocyanine dye comprises a dye including the structure:



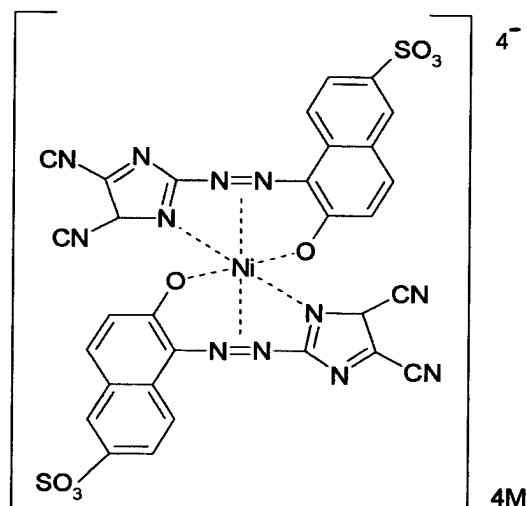
wherein each R group is independently H, SO₃H, SO₂NH₂, or SO₂NH-alkyl-OH₂, with the proviso that an average of from 2 to 6 R groups are other than H.

- 5 30. An ink set as in claim 22, wherein the copper- or nickel - containing azo dye comprises Pacified Reactive Red 23.

31. An ink set as in claim 22, wherein the copper- or nickel- containing azo dye comprises a nickel metallized naphthol azo triazole.

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32. An ink set as in claim 22, wherein the copper- or nickel- containing azo dye comprises a dye having the structure:



wherein M is H or a monovalent ion.

33. An ink set as in claim 26, wherein the rhodamine dye comprises a
 5 member selected from the group consisting of Acid Red 52, Acid Red 289, Acid Red 388, and mixtures thereof.

34. An ink set as in claim 25, wherein the cyan triarylmethine dye is Acid
 10 Blue 9.

35. An ink set as in claim 22, wherein the phthalocyanine dye is a single
 phthalocyanine dye.

36. An ink set as in claim 22, wherein the phthalocyanine dye is at least
 15 two phthalocyanine dyes blended together.

37. An ink set as in claim 22, wherein the copper- or nickel- containing
 azo dye is a single copper- or nickel-containing azo dye.

20 38. An ink set as in claim 22, wherein the copper- or nickel- containing
 azo dye is at least two copper- or nickel-containing azo dyes blended together.